

Agricultural Situation

JULY 1966

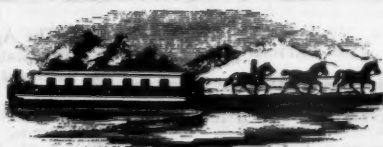
Vol. 50, No. 7

Statistical Reporting Service
U.S. Department of Agriculture



ONE HUNDRED
YEARS OF
CROP
REPORTING

1866 
 1966



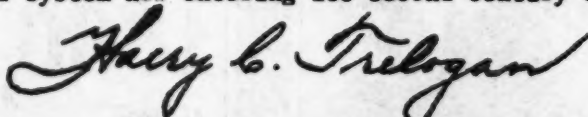
Washington, D.C.
July 1966

Birthdays are important milestones in the lives of organizations, just as they are in the lives of individuals. On July 11, in conjunction with the issuance of the monthly crop report, the Statistical Reporting Service will begin the hundredth "birthday" celebration of crop and livestock reporting in the U.S. Department of Agriculture.

We hope that wherever you are, you will join with us in marking this centennial observance. Some of you have a particularly important stake in the anniversary because you have been giving your time and effort to complete and mail your reports for a good part of those 100 years. But even if you are relatively new to this voluntary work, you will want to take note of the occasion.

This centennial has come about because more than 100 years ago, farmers and others interested in agriculture had the foresight to see that they and those who would follow them needed a fair, reliable source of statistical information. So, they started the movement that led to the regular collection and distribution of agricultural facts and figures. Because these men laid the foundations for us, we can now look back--and forward as well.

This issue of the Agricultural Situation is dedicated to past, present, and future crop reporters who are the backbone of a system now entering its second century of service.



Administrator

The Agricultural Situation is sent free to crop, livestock, and price reporters in connection with their reporting work.

The Agricultural Situation is a monthly publication of the Statistical Reporting Service, United States Department of Agriculture, Washington, D.C., 20250. The printing of this publication has been approved by the Bureau of the Budget (March 12, 1964). Single copy 5 cents, subscription price 50 cents a year, foreign \$1, payable in check or money order to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

HOW AGRICULTURAL STATISTICS BENEFIT FARMERS

Recognition of the fact that the man with superior knowledge of supply has a distinct advantage when negotiating prices came early in our agricultural history. This fact, more than any other, was responsible for the creation of the crop reporting service over a century ago.

Bitter experience demonstrated to farmers time and again that dealers enjoy a natural advantage for gaining supply information. They are located in places where they can observe the quantity and quality of products coming to market. Besides their intimate knowledge of their own businesses, they can more readily see what is going in and out of their competitors' houses. They are also better able to keep in touch with trade news, with operators in central markets, with bankers, market analysts, and others who make it their business to keep tabs on markets.

Even though traders in the market a hundred years ago knew more than farmers about supply, they too were handicapped by the lack of reliable information before the days of crop reports. The best of their information was limited and vague. Gossip and rumors influenced their prices. Risk confronted them when they planned their handling operations and when they sold products bought from farmers.

Risks resulting from inadequate market information tends to reduce farmers' prices. The greater the risk, the greater the marketing margins required by traders to cover their costs. The ultimate demand for farm produce occurs in consumer markets. Marketing margins are deducted from consumer prices to determine the prices that can be paid to farmers. So, the lower the risk, the less the margin and the higher the price the farmer is likely to receive.

Not only do agricultural statistics benefit individuals trading in the market, they are essential if the market is to perform its function of setting fair prices. Economists generally recognize several conditions that must be met if a market is to achieve a high degree of competition.

These include: Large numbers of buyers and sellers so that none of them can change the price by entering or withdrawing from the market; perfect mobility, meaning that products can move freely and easily from one place to another in response to price changes; homogenous products and services so that any differences in characteristics of the products or the conditions of sale aren't sufficient to cause price differences in the same market; and only money considerations and not personal relationships are taken into account when prices are set.

It will not be doubted that, with reference to either individual or national welfare, agriculture is of primary importance. In proportion as nations advance in population and other circumstances of maturity this truth becomes more apparent, and renders the cultivation of soil more and more an object of public patronage. Institutions for promoting it grow up supported by the public purse, and to what object can it be dedicated with greater propriety? Among the means which have been employed to this end, none have been attended with greater success than the establishment of boards composed of proper characters, charged with collecting and diffusing information, and enabled, by premiums and small pecuniary aids, to encourage and assist a spirit of discovery and improvement.

George Washington
Message to Congress, 1796

A final essential condition: *Complete knowledge so that no trader has information about market conditions unknown to the rest.*

It is the role of agricultural statistics to provide more complete information.

The Statistical Reporting Service particularly stresses information in the area where complete information is most difficult to obtain—beginning at

the farm and continuing to the first point of concentration in the market place.

For agricultural statistics to play their proper role in the market, they must maintain a reputation for accuracy and objectivity. Doubt about the reliability of an estimate can be as damaging to farmers' interests as lack of information. A Government supply estimate should therefore be the single best estimate that can be derived.

The USDA works cooperatively with State agencies wishing to provide agricultural estimates for areas within a State. By joining forces they produce higher quality data at less cost. And the State and national estimates are compatible. So that users will have less chance for misunderstanding, the cooperating Government agencies make only one official estimate for each item and area.

Agricultural statistics also must be freely available to all. The cooperating State and Federal Governments go to great length to make sure that official estimates are made accessible to all interested users at the same time so no one will gain advantage by getting advance information.

YIELD RECORDS

Corn	73.1 Bu. (1965)
Winter wheat	28.6 Bu. (1958)
Soybeans	25.2 Bu. (1961)
Cotton lint	531 Lb. (1965)
Tobacco	206.7 Lb. (1964)
All crops index (1957-59=100)	123 (1965)

The importance attached to good agricultural statistics in the early days reflected the importance of agriculture to the economy of the young country.

Farmers at the time of the Civil War made up well over half of the Nation's workers and their income was largely determined by the prices they received at harvest time. The Nation also had an urgent need for as much farm production as possible to ship abroad for

foreign exchange. In that day, farm products were the main exports used to pay for heavy debt charges and to buy equipment for our infant industries. The Nation could prosper only if farmers could profitably expand their output. Thus it was in the national interest that farmers have sufficient market information to enable them to bargain effectively.

It is to little purpose that we advocate and practice improved systems of agriculture, that we enrich our lands and increase our products, that we "rise up early, and late take our rest, and eat the bread of carefulness," if when we come to market we are to be outwitted by men who live by their wits, and fatten and grow rich at our expense. Our proper and only remedy against the operations of these gentlemen, is prompt and reliable information as to the crops of the country.

Editorial, American Farmer
November 1854

This is no less true today. Although the farm population has shrunk to less than 6½ percent of the total, agriculture remains our largest single industry. Agriculture and the businesses and industries marketing farm products engage approximately three-tenths of the Nation's workers.

Exports of farm products also have remained a major contributor to our economy. In the 1966 fiscal year, for example, they ran at a rate above \$6.7 billion, and in recent years have made up about a fourth of total exports.

The demand for statistics has grown with the times. The comparatively simple, agricultural economy that characterized the United States in the first half of its history discovered that farm statistics were essential to an efficient and equitable marketing system.

They are even more essential in the highly industrialized economy of today. The numbers of agriculture have become a basic tool in the operation of our complex system of producing and marketing farm products.

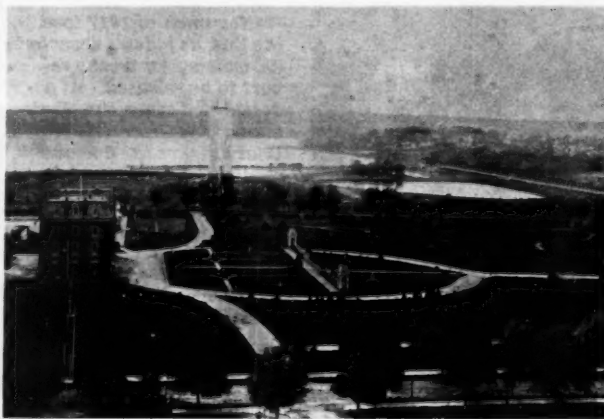
H. C. Trelogan

CROP AND LIVESTOCK REPORTING . . .

THE FIRST CENTURY



Proud of their harvest, this group of farmers posed with their 1904 corn crop at Cozad, Dawson County, Nebr.



Monthly reports of crop conditions and weather for the Nation started in 1866, 2 years before this picture was taken of the newly built original Agriculture building and the half-finished Washington Monument. Annual summaries told of acreage, production, yield, and livestock numbers.



“Sodbusters” like these 1887 Nebraska settlers and other farmers were needed in the new corps of independent crop reporters headed by part-time statistical agents.



Settlers leave Orlando for Perry, both in Oklahoma Territory, in 1893. The opening of western territories brought farmers and a growing need for agricultural statistics to help them get a fair market price for their products.



The reporting corps counted 50,000 members including a small team of crop specialists and regional agents who conducted field observations and interviews. An additional 84,000 farmers submitted annual summaries.



By 1909, farm income from livestock was almost equal to crop income and, though the farmer's desk was piled high with paperwork, reporters continued to find time to give information on their farming operations.



Newsmen of 1917 toed the line, as today's reporters do, waiting for a crop report to be released. At a designated time, the Chairman of the Crop Reporting Board makes the document available to all, giving no advantage to buyer or seller.



When corrective farm programs were needed in the 1930's, agricultural statistics had a preeminent role in their development by giving facts on production, land use, and numbers of livestock.



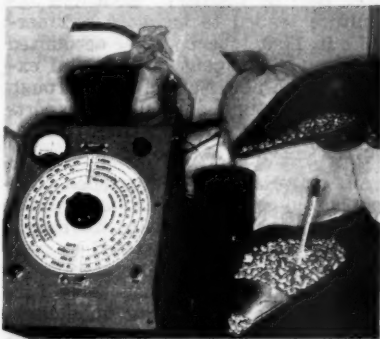
■ Heavy demands on U.S. agriculture during World War II and the postwar years made accurate statistics on farm output even more important.



■ Technical advances that brought increased production and yield on the farm necessitated creation of new forecasting procedures.



■ This soybean frame, used in the new objective yield survey, measures a portion of a scientifically selected field.



■ Special equipment, like this moisture tester, and advanced mathematical practices help estimate production and yield in the objective survey.



■ Much of the data from crop reporters and enumerative and objective surveys, along with other commodity information, is funneled through electronic computers for more rapid farm facts.

THE FIRST CENTURY OF CROP AND LIVESTOCK ESTIMATES

History is a story of people. In the Crop and Livestock Estimating Service, history has been made by many people, with a common purpose not set forth in a neat statement of objective but rather by the recognition of a problem and a search for a solution.

The story goes back to the beginning of the Nation. In 1790 more than 90 percent of the people gainfully employed in the United States were engaged in agriculture. In the North, farmers tended to be self-sufficient, performing many of the functions later taken over by industry. Southern agriculture tended to be more commercial. In 1790, tobacco alone accounted for about 44 percent of the total exports of the new Nation. All through the 19th century, agricultural exports accounted for better than three-fourths the value of exports.

As manufacturing developed, the population began to draw toward the industrial centers, while increasing numbers of farmers migrated to new, more productive virgin land beyond the mountains, though it took them further from those dependent upon them for food and clothing. Little wonder that those who stayed and those who moved with the frontier soon felt a need for information that would enable them to plan their business and deal on equal terms with those to whom they sold their produce.

Leaders in the Government—George Washington, Thomas Jefferson, and others—had recommended setting up a division, bureau, or department of agriculture in the central Government. Farmers, through their clubs and agricultural associations, added their pleas for assistance.

Ideas were crystallizing. Farmers and others decided that most of all they needed information on the amount of crops and livestock available. How to get this information was a problem, and the need was urgent, the problem was increasing. McCormick's reaper was patented in 1834. A practical threshing machine was patented in

1837, the same year John Deere began to manufacture steel plows. These are but indicative of some of the things happening to expand agriculture and increase the efficiency of farmers in crop production.

In 1839, a man named Henry Ellsworth was appointed Commissioner of the U.S. Patent Office. President Van Buren recommended the establishment of an agricultural bureau, but his plea only resulted in getting some questions into the 1840 census questionnaire. With this start and an appropriation of \$1,000 to collect statistics and distribute seeds, Ellsworth began collecting information from farmers. In 1841, he issued the first crop report. He succeeded in carrying the program for 5 years, then interest in the Patent Office waned, and the reports were discontinued.

Statistics are now recognized as the peculiar function of the State, in a sense in which no other science is so, and in the United States the Federal Government alone, has the power and the opportunity to give it the abundance, universality and accuracy that are essential to enable the American Statistician to avoid the errors that are constantly occurring in the calculation of mean to eliminate and allow for disturbing causes.

John Jay
1858

Farmers stepped in and tried to do the job themselves. James T. Earl, president of the Maryland Agricultural Society, tried to get all State agricultural societies to appoint crop reporters to make reports to him. Earl offered to combine the reports and return the results to the societies. It was too big a job. Next, Orange Judd, Editor of "The American Agriculturist," started to get reports through his subscribers. He published reports through 1862, but

discontinued them the next year when USDA was established.

Its establishment and the organization of the Division of Statistics formed the basis for continuing service. Starting in 1863, the Commissioner of Agriculture published annual estimates of production and monthly reports on the condition of crops based on voluntary reports from crop correspondents in each country. The year 1866, however, marked the real beginning of USDA's continuous series of agricultural statistics.

Agriculture, confessedly the largest interest of the Nation, has not a department nor a bureau, but a clerkship only, assigned to it in the Government. While it is fortunate that this great interest is so independent in its nature as to not have demanded and extorted more from the Government, I respectfully ask Congress to consider whether something more can not be given voluntarily with general advantage. Annual reports exhibiting the condition of our agriculture, commerce, and manufactures would present a fund of information of great practical value to the country. While I make no suggestions as to details, I venture the opinion that an agricultural and statistical bureau might profitably be organized.

Abraham Lincoln
First Message to Congress
December 1861

The service has grown and expanded for a century of continuous service. Beginning with once-a-year estimates of acreage, production, and farm prices of major crops and species of livestock, and monthly reports on crop conditions during the growing season, the series has grown to some 700 reports a year. They touch on almost every phase of crop and livestock production.

A full history of this service is, of course, not possible in this publication. The unique part of the whole story, however, is that for 100 years it has been a story of people—people that

work together with confidence and understanding, not because there is any law saying they must, but simply because intelligent people have for all these years agreed to work together for the benefit of all. About three-fourths of a million of these people are farmers. But many are large and small businessmen, bankers, handlers, dealers, processors, storage operators, railroads, and truckers. The State departments of agriculture, the State colleges, extension services, experiment stations, and many more all pitch in with USDA technicians to meet problems.

Ignorance of the state of our crops invariably leads to speculation, in which oftentimes, the farmer does not obtain just prices, and by which the consumer is not benefitted. The interests of labor, therefore, demand that the true condition of these crops should be made known. Such knowledge, while it tends to discourage speculation, gives to commerce a more uniform and consequently, a more healthy action. Its influence on manufacturers is not less beneficial.

First Monthly Report of USDA
July 1863

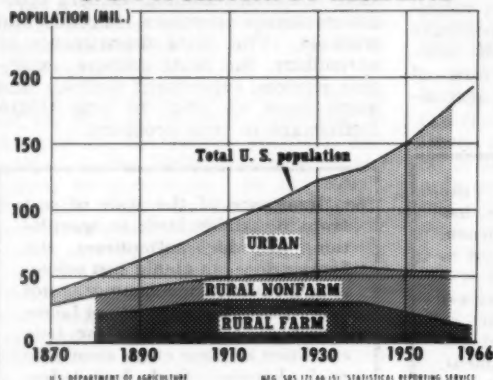
And so we have rounded out a century of service to the Nation. There have been good times and bad. The percentage of the population gainfully employed in agriculture has dropped from about 58 percent in 1860 to 6.5 percent in 1965. Yet we live in the best-fed country in the world.

Agriculture in all of its parts is still this Nation's biggest business. The job is not completed, because agriculture is dynamic. The Crop and Livestock Reporting Service must, as in the past, keep improving and refining its methods to meet the ever-increasing demands for information.

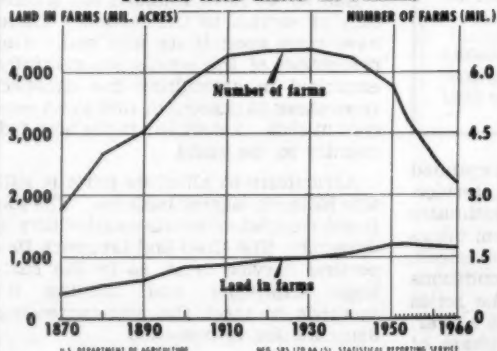
With the heritage of hard work, understanding, cooperation, and integrity, we step out together as a team to build the history of the next century.

S. R. Newell
Past Chairman, Crop Reporting Board

U. S. POPULATION BY RESIDENCE



FARMS AND LAND IN FARMS



Rural farm and rural nonfarm people accounted for a majority of the population in 1870 but even then were losing ground to the urban population. At the time of World War I, the urban and rural populations were about equal, but urban numbers continued the rapid increase while the rural sector made only minor gains. By the mid 1960's, the urban population outnumbered rural people about 3 to 1.

Farm numbers rose sharply from 1870 to 1910, increasing from less than 3 million to more than 6 million, as agriculture expanded westward. The completion of land settlement in the early 1900's slowed the rate of increase in new farms and numbers were relatively stable from 1910 to the mid-1930's. A downtrend that became evident about 1940 sharply accelerated after 1950. Numbers were down to slightly more than 3 million by 1966, not much above the 1870 level.



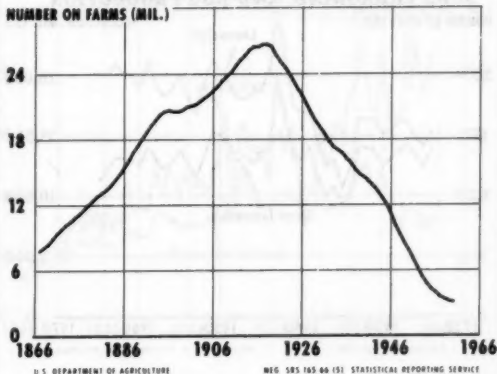
Numbers of horses and mules more than tripled from 1867 to 1867 to the peak of nearly 27 million head in 1918. Numbers then declined steadily to about 3 million head in 1960 as mechanization became the rule in farming. So, horse and mule estimates were discontinued.



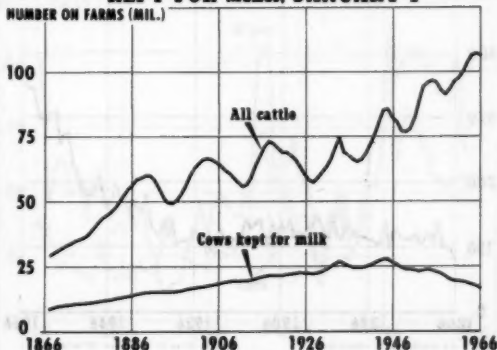
Numbers of all cattle have continued to increase during the century of estimates, moving from less than 30 million head in 1867 to nearly 107 million on January 1, 1966. The makeup of the Nation's herd has changed markedly with a sharp shift to beef cattle and a decline in cows kept for milk. In 1867, milk cows accounted for about 30 percent of all cattle but by the end of the first century of data they represented about 15 percent of total cattle.



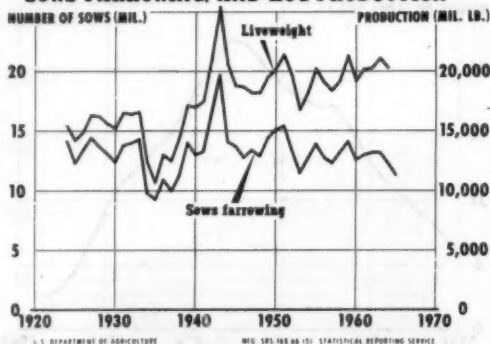
HORSES AND MULES, JANUARY 1



ALL CATTLE AND COWS KEPT FOR MILK, JANUARY 1



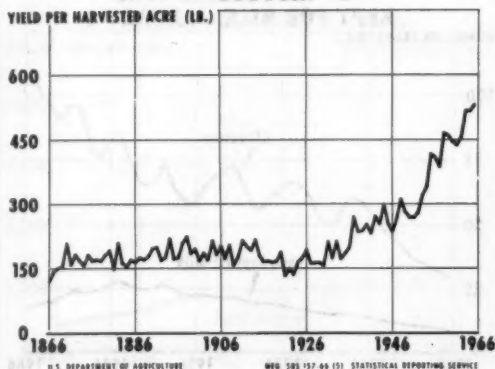
SOWS FARROWING, AND HOG PRODUCTION



U. S. DEPARTMENT OF AGRICULTURE

WEO 185 186 46 (5) STATISTICAL REPORTING SERVICE

COTTON



U. S. DEPARTMENT OF AGRICULTURE

WEO 100 157 46 (5) STATISTICAL REPORTING SERVICE

Hog numbers on farms have shown wide fluctuations since 1867. They were a record high 84 million head in 1944 but during the early 1960's, held near the early 1900's. Sows farrowing were near 15 million head when records began in 1924. They were a record 15 million head in 1943, but started slipping in the mid-1940's until they were below the 1924 level in 1965. Live-weight production has generally trended up and has been above 20 billion pounds annually since the early 1960's.

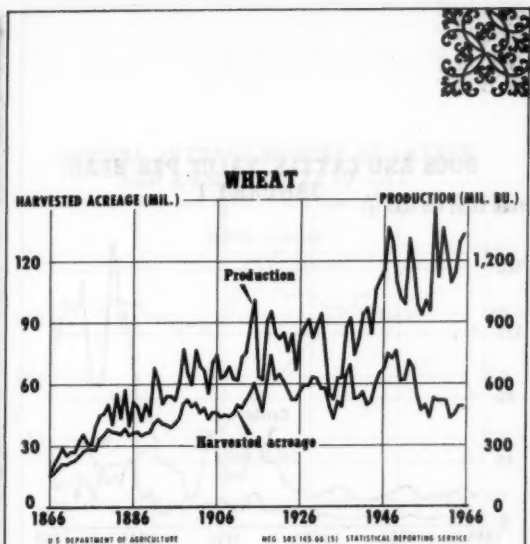
After the Civil War, cotton acreage expanded steadily until 1926. It then began a decline that continued in the mid-1960's. Production rose with acreage, from about 2 million bales in 1866 to a record high 19 million in 1937. Yields struggled to keep above 150 pounds per acre from 1866 to the late 1930's. An uptrend beginning in 1937 boosted yields above 200 pounds. Then they proceeded to top 300 pounds in 1948, 400 pounds in 1955, and 500 pounds in 1963.



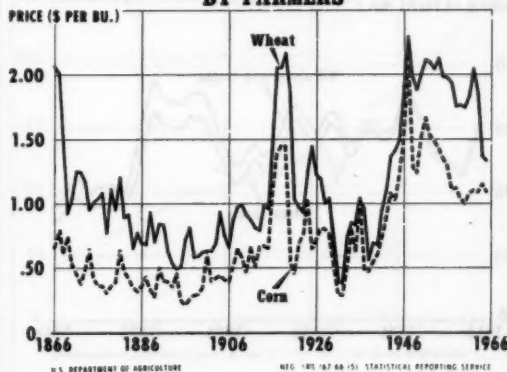
Most of the wheat harvested in 1866 was located east of the Mississippi River. Acreage then expanded to the West with the U.S. total reaching a high of nearly 74 million in 1919. It again rose after World War II to a peak of nearly 76 million in 1949. Yields fluctuated in the 12 to 16 bushel range until about 1940 and production generally followed acreage changes. After 1940, yields trended upward, reaching 27.5 bushels in 1958. Production also set a record high in 1958.



Wheat and corn prices have followed the same general pattern over the century. They reached a peak during World War I, followed by a new record high at the close of World War II. Wheat prices were \$2.06 per bushel in 1866, a level not reached again until 1919 and only 23 cents below the record high \$2.29 in 1947. Corn prices also were record high in 1947, the only year they were above \$2 per bushel.

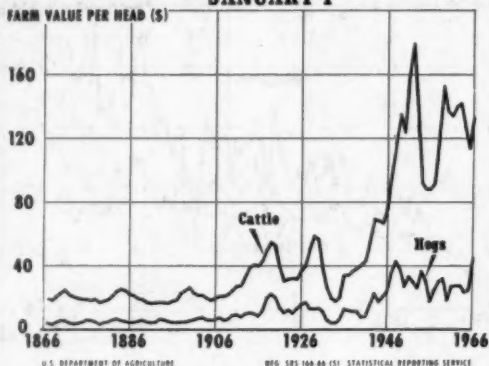


WHEAT AND CORN: PRICE RECEIVED BY FARMERS





HOGS AND CATTLE, VALUE PER HEAD, JANUARY 1



ALL SHEEP AND LAMBS, AND STOCK SHEEP, JANUARY 1



Value of hogs per head generally held around the \$5 to \$6 level from 1867 until World War I when it jumped to \$22 in 1919. This level was not reached again until 1943. Value reached a peak of \$42 in 1948 and a record high of \$45 in 1966. Value of cattle made only moderate increases and remained mostly below \$40 until the breakthrough in 1940. Value then climbed rapidly to a record \$179 in 1952.



Sheep and lamb numbers moved erratically during the century. A decline from the record high of 56 million head in 1942 reduced the population to about 26 million head by 1966, well below the 46 million in 1867 and the lowest of record.





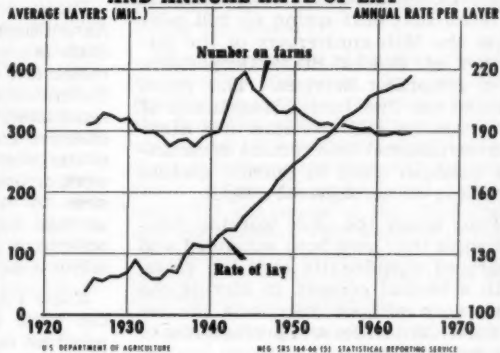
The average annual number of layers on farms moved from a level of about 300 million in the 1920's to a peak of nearly 400 million in 1944. A persistent decline reduced numbers to less than 300 million by the early 1960's. Annual rate of lay has shown a remarkably steady increase since 1940, advancing from about 130 eggs per layer to the record high of nearly 220 by the mid-1960's.



The index of farm output (1957-59=100) displays a steady upward trend, moving from less than 25 in 1870 to nearly 120 by 1965. The drought in the early 1930's produced the only significant period of decline in output during the period. Output after 1940 has followed a rather consistent sharp uptrend.



ANNUAL AVERAGE NUMBER OF LAYERS AND ANNUAL RATE OF LAY



FARM OUTPUT



FEDERAL-STATE COOPERATION IN AGRICULTURAL ESTIMATES

While we are proudly observing the completion of 100 years of continuous Federal Crop Reporting, it is pertinent to recall that next spring we will celebrate the 50th anniversary of the initiation of Federal-State Cooperative Crop Reporting Services. This event marked the first formal association of the resources and activities of a State and the national Government in attaining common goals in current factual reporting on agricultural output.

Thus began the close working relationships that have been expanded and improved significantly over the years, with a mutual concern in making the plan work without disrupting the respective authorities and prerogatives of the cooperators.

The idea of such cooperation in crop reporting was primarily engendered by the pressing need for more extensive, timely and reliable information on farm output during the critical days of World War I. A number of State Agricultural Commissioners shared the concern of Federal officials in finding some means for more adequately filling the insistent demand for information on forthcoming supplies of feedstuffs and meats and other foodstuffs—timely intelligence on “where, when, and in what quantity.” Several commissioners, notably in West Virginia and Missouri, advanced the idea of joining forces as early as 1914.

Finally, in the spring of 1917, almost simultaneous with America's official entry into the war, the first official cooperative agreement was effected with the State Department of Agriculture in Wisconsin. The following November, Utah signed up, followed by Missouri and Nebraska in mid-1918. The idea spread rapidly. Even after the armistice in November 1918, States continued to come under the plan. By the end of fiscal year 1919, formal cooperation was established in 17 States, and through fiscal 1922 the total reached 26. By this time, the annual investment of State funds by the cooperating agencies was nearly \$90,000,

augmenting the Federal program funds by roughly one-fourth.

Under the agreements, the Federal Agricultural Statistician assigned to the State is recognized as the technical director and supervisor of the combined Federal-State programs. He is directly responsible to the State cooperator for effective conduct of the State portion of the program. The types of reporting work or projects to which the State desires to apply its resources—so long as they are compatible with the basic objectives of cooperative reporting—is solely a matter for State decision.

State funds are not required to underwrite any portion of the Federal program operations, which are authorized and supported by annual congressional appropriations. By and large, the regular periodic reports made public are issued as joint releases, and most of the State special bulletins and publications also carry cooperative labels.

The Federal Statistician in Charge supervises the staff of assigned Federal and State employees (including some who are cooperatively paid). He is provided the necessary Federal technical assistants and statistical and other clerical employees to carry out the national program. The State supplies such other technical and clerical employees as needed to attain the State's objectives.

The ratio of Federal-State staffing and other costs varies according to the State's program. Usually, the State investment or contribution rarely amounts to half the Federal expenditure. There have been instances, however, particularly in the 1930's and early 1940's, when States with exceptionally specialized and extensive reporting services (California, New York, Illinois, North Carolina, Wisconsin) have equaled and surpassed Federal program costs in the State.

The mutual advantages to both cooperators and to the public, readily overcomes any latent “sales resistance” to cooperation. Some dividends are

quite obvious—the elimination of duplicative effort and the avoidance of the confusion which results when two agencies issue divergent reports. The issuance of a single report enables the State to conserve some of its funds for use on new or expanded reporting services. Meanwhile, the cooperative report gains in public acceptance.

The joining of operations also permits the buildup of a single set of dependable, permanent records of historic data for the State, and frequently, similar records of estimates by counties or producing areas, keyed in with the State estimates. Cooperation generally opens up additional channels through which data may be obtained, increases the interest and responsiveness of an enlarging number of voluntary reporters, and often expands the means for prompt distribution of the reports to farmers and others.

A further benefit accruing to the Federal service is that the training and experience gained by State employees spurs many to a career in the Federal service. Another significant aspect has been that, when the Congress has authorized and provided funds for some new project under the Federal program, we have often had the good fortune of predicated the project on pioneering work under one or more State cooperators' programs. With this experience, the Federal project is launched with an accelerated start.

Many States report the findings of their special statistical studies of agriculture in very attractive publications. These are greatly valued by the many people who make repeated use of their contents. Quite a few States issue annual printed compendiums summarizing the past season's production records, too, together with tables of historic data and appropriate narrative. Generally issued in bound form, these volumes share popularity with USDA's annual statistical summary and, locally, they often are soon "dog-eared" from constant use.

A major segment of many State programs from the beginning has been the preparation of county estimates. Chiefly, data for these estimates are obtained by extensive surveys of individual farm acreage and production. However, 14 States have as their major

source the substantial and invaluable body of current and historic data from a State farm census taken each year by local assessors.

Costs of gathering the census data are mainly borne by county governments, and so they are not counted with the State cooperators' program expenditures (although costs of analyzing the data are).

The vast reservoir of benchmark data, by counties and areas, that has been building up over the years has enabled the Crop Reporting Service to measurably speed its response to special situations and emergency demands for basic data. When the Agricultural Adjustment Act was passed in May 1933, Federal statisticians were asked to provide an unusual volume and range of official estimates to guide and assist those administering the programs.

In 1946, the Research and Marketing Act was passed. One section provided for allotment of Federal funds to State departments of agriculture, on a matching fund basis, for studies of agricultural marketing. A major problem was the need for more adequately detailed data to probe and analyze the exact nature of specific marketing difficulties and to solve them.

Given this opportunity to improve agricultural marketing, the number of State agricultural departments whose proposed projects qualified for matching fund allotments (and who met the requirement of cooperation with the Federal Crop Reporting Service) rose quite rapidly from 6 in fiscal 1948, to 22 by 1955, and 28 by 1965. In the process, additional States joined in Federal-State crop reporting operations, to a total of 38 States by 1950 and 45 by 1965. The expenditure of State funds on their statistical programs (not including Federal Research and Marketing Act funds) mounted from \$930,000 in 1955, to nearly \$1,900,000 in 1965.

Federal-State cooperation in crop reporting has brought about not only remarkable assistance to agriculture, but also a strong mutual trust and regard by cooperators and a high public esteem. May it continue as sturdily to its own centennial—and well beyond.

Paul L. Koenig
Past Chairman, Crop Reporting Board

Cooperation in Action

■ A man's judgment is no better than the facts at hand upon which to base his judgment. Government crop and livestock reports provide these facts pertaining to agriculture. They are an example of the long and successful Federal-State cooperation that benefits producers, handlers, and others involved with agriculture.

These reports are an aid to farmers in planning their operations; that is, in helping farmers to decide whether to expand or curtail crop acreage and livestock numbers, or whether to sell a crop at harvest time or store for later sale. They make it possible for a farmer to know the situation in the State and the Nation, as well as in his home community. Since crop and livestock reports are available to farmers and others at the same time, farmers are on a par with every other group as far as access to agricultural information is concerned.

In every sphere of human thought, uncertainty is the mother of speculation.

John Hyde
Chief Statistician, 1897

Crop and livestock reports are the basis for all outlook statements pertaining to agriculture. They let railroads know how many cars to have available in given areas of production to move agricultural products to market and into storage. For example, a prospective production of 200 million bushels of wheat in Kansas would require more cars than one of only 100 million bushels.

SRS reports let manufacturers know how much material to have on hand for making containers. Obviously, a prospective production of 150,000 tons of canning tomatoes in Indiana would require fewer tin cans than a crop of 250,000 tons.

Crop and livestock reports are an aid to banks and other lending institutions in establishing wise lending policies. Banks have a responsibility to their

depositors for safe investments and a responsibility in helping borrowers determine the wise use of credit.

PRODUCTION INDEX RECORDS

(1957-59=100)

Feed grains	113 (1965)
Food grains	121 (1958)
Hay and forage	111 (1965)
Sugar crops	155 (1964)
Fruits and nuts	115 (1965)
Vegetables	112 (1965)
All crops	117 (1965)

The reports are an aid to livestock slaughterers and meat packers in planning the size of labor force to have available when livestock moves to market. As a result, processing plants are more economically located with respect to areas of production and the ultimate market. The margin that dealers must take to play safe in their operations is narrower because of these reports.

And, the Unusual

	<i>Record Output</i>
Hops	63.2 Mil. Lb. (1951)
Broomcorn	81,400 T. (1923)
Popcorn	533.2 Mil. Lb. (1965)
Peppermint	2.6 Mil. Lb. (1965)
Spearmint	1.6 Mil. Lb. (1961)

Many dealers and handlers of agricultural products have their own private reporting services. If it were not for the Government crop and livestock

reports which are available to everyone, farmers would be at a serious disadvantage.

The basic information for these reports comes from thousands of volunteer reporters—farmers and others—who serve without pay. In addition, township assessors, at the time of personal property assessment, enumerate crop acreages and other information essential to reliable and timely agricultural statistics.

In these days of international commingling, by commerce, immigration, and travel, demand for statistics more comprehensive than national statements have arisen, and international comparisons have therefore become an urgent necessity of progress in government, industry, and the arts.

Jacob Dodge
Chief Statistician, 1885

Crop and livestock reporting is a service rendered to farmers and others in our State—if you'll pardon the personal example—by the U.S. Department of Agriculture in cooperation with the Agricultural Experiment Station of Purdue University. There is a similar office in each State. However, in most States the cooperation is with the State

Department of Agriculture. The cooperation has been long and successful.

PRODUCTION HIGHS

Eggs 64,588 Mil. (1965)

Broilers 2,333 Bil. Hd. (1965)

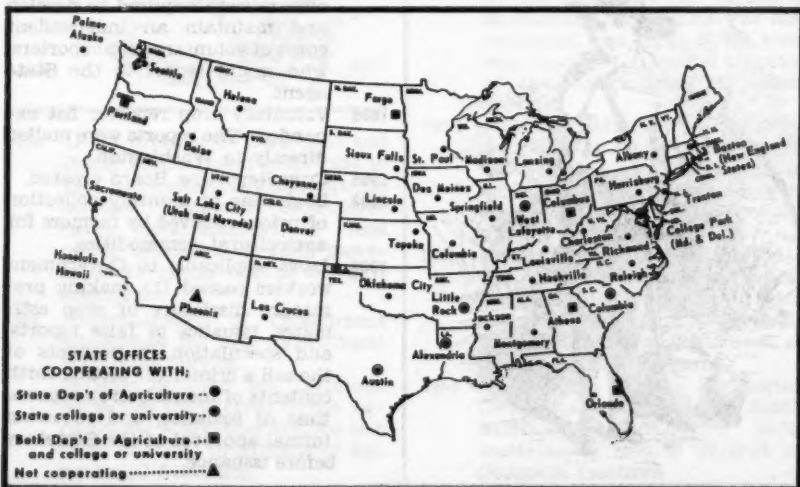
Red meats 31,687 Mil. Lb. (1964)

Honey 299 Mil. Lb. (1963)

Recognizing the many advantages of a joint relationship between the State and Federal Governments in the development of agricultural statistics, Purdue University in 1925 entered into a cooperative agreement with the U.S. Department of Agriculture to provide detailed agricultural statistics by counties, which are so vital to the economy of our State.

During this centennial year, we do well to consider the past, present, and future of cooperative crop and livestock reporting. As president of the National Association of State Departments of Agriculture, I wish to offer my congratulations to the employees of the Statistical Reporting Service and my best wishes for the future.

R. B. Wilson



A CHRONOLOGY OF DEVELOPMENT AND PROGRESS 1866-1966



- 1839 Ellsworth obtained \$1,000 appropriation in the Patent Office fund for "the collection of statistics and distribution of seed."
- 1841 Ellsworth issued first crop report, based on census of 1840.
- 1855 James T. Earle, president of the Maryland Agricultural Society, proposed to State agricultural societies that they appoint men in each county to report on crops, and that these reports be summarized by interested offices and made available to all societies.
- 1859 Orange Judd, editor of "The American Agriculturist" solicited comments on crop conditions from subscribers and published his appraisal of crop conditions. In 1862, specific questionnaires were sent to persons selected as crop reporters.
- 1862 U.S. Department of Agriculture established, May 15. Land Grant College Act and Homestead Act approved.
- 1863 USDA Division of Statistics established. Issue of monthly reports of information on condition of crops started in July.
- 1866 Beginning of continuous series of annual statistics on production of major crops, livestock numbers, and annual farm prices.
- 1882 Part-time State statistical agents appointed under the direction of the Division of Statistics. These officers were required to develop and maintain an independent corps of voluntary crop reporters, who would report to the State agent.
- 1896 Voluntary crop reporter list expanded. The reports were mailed directly to Washington.
- 1905 Crop Reporting Board created.
- 1908 Beginning of monthly collection of prices received by farmers for agricultural commodities.
- 1909 Laws applicable to Government workers passed (1) making premature disclosure of crop estimates, issuance of false reports, and speculation in products of the soil a crime; (2) setting forth contents of monthly crop reports, time of issuance, and requiring formal approval of the Secretary before issuance.

1911 Beginning of quantitative production forecasts during the growing season for major crops except cotton.

1915 Beginning of cotton production forecasts during the growing season.

First U.S. Department of Agriculture market news report was issued (on strawberries) at Hammond, La.

1917 Bureau of Crop Estimates entered into first formal agreement with Wisconsin for operation of the cooperative Federal-State Crop Reporting Service.

1924 Rural carrier collection of questionnaires on acreage started.

1925 First quinquennial agricultural census taken.

1928 Beginning of systematic attempt to secure objective measures for forecasting yield started with field counts of cotton.

1933 Agricultural Adjustment Act approved May 12.

Division of Crop and Livestock Estimates called on to assist in setting up the organization for handling contracts, records, and providing special statistical basis for allotments for basic crops.



1934 Great drought in Corn Belt and Great Plains lasted from 1934 to 1936 necessitating many special services: Midmonth crop forecasts, determination of feed needs, allocation of feed, movement of cattle out of drought areas, etc.

1939 Reorganization of Department established the first Agricultural Marketing Service.

Division of Crop and Livestock Estimates transferred to the Agricultural Marketing Service and name changed to Division of Agricultural Statistics.

1941 Chicago Dairy office established for weekly reports on butter, cheese, and other dairy reports.

1942 Division of Agricultural Statistics except Cold Storage section transferred to Bureau of Agricultural Economics.

1952 Congressional report of an investigation of agricultural estimates work by a special Subcommittee of the House Agriculture Committee, recommended strengthening of the reporting service, particularly by providing funds for research into methods for developing and improving statistical techniques.



1953 Reorganization of the Department. The Production and Marketing Administration was abolished, and most of its activities transferred to the reestablished Agricultural Marketing Service. At the same time the Bureau of Agricultural Economics was discontinued, but most of its work was organized in several divisions of the Agricultural Marketing Service.

1954 June Enumerative Survey started on research basis in 10 States, 100 counties and 703 segments. Objective Yield Surveys made on cotton in 10 States, 76 counties and 200 sample units.

1961 Departmental reorganization—Statistical Reporting Service established with a Division of Field Operations, Division of Agricultural Estimates and Division of Standards and Research.

1966 Washington Data Processing Center established in South Building, consolidating units scattered in several District of Columbia locations.

CROP REPORTS: PAST AND PRESENT

In July 1863—one year after it was established—the U.S. Department of Agriculture issued its first official crop report on the condition of growing crops by States. The crops included were winter wheat, spring wheat, rye, corn, oats, potatoes, sorghum, and cotton. Tables of acreage, yield per acre, production, and value for 1862 were published in the first annual report.

However, long before USDA was established, crop reports of one kind or another had been published in the United States. The 1840 Census of Agriculture was the first national inventory of agriculture showing, by States, the production of major crops and numbers of livestock by species. This was followed by similar censuses each 10 years. From 1840 through 1848, the Patent Office made annual yearend State estimates of farm output.

During the period following 1840, demand grew for preharvest appraisals of crop conditions. Starting in the mid-1850's the "American Agriculturist," edited by Orange Judd, included a section on "Reports on Crops" during the growing season. This effort set the basic framework for seasonal crop reports after the Department was established. But during the Civil War, reports were not received from Southern States. Thus 1866 was the first year continuous crop series for all States began. Continuous series on livestock inventories began in 1867.

The number of crops for which annual estimates were made increased from 10 in 1866 to 12 in 1904. Livestock inventory reports covered six major types. By the end of this period, five major kinds of continuous reports were in operation: (1) Livestock numbers and values by States in January; (2) March 1 stocks of wheat, corn, and oats, by States as a percent of production; (3) monthly reports of growing-season crop conditions showing acreage as a percent of year earlier and condition as percent of normal; (4) yearend annual reports of acreage, yield, production, price, and value of principal crops; and (5) farm wage rates.

During the next 60 years, expansion in the coverage and frequency of crop and livestock reports was almost continuous. The greatest needs developed during war times when we were concerned about feeding our people and our armies, as well as helping our allies. In 1905, a new system of evaluating reports from crop reporters and State Statistical agents by a committee of five called the Crop Reporting Board, was started. In 1909, the board was prescribed by an act of Congress, and this procedure for developing estimates continues today.

This year, the Crop Reporting Board will issue over 700 national reports. The day and time of release of most of these reports was established last December. Most phases of crop and livestock (including dairy and poultry) production, prices, stocks, disposition, and other related aspects are covered by the reports. Reports on crops begin prior to actual planting and follow the crop cycle through the year. They cover farmers' intentions to plant, planted and harvested acreage, utilization of acreage, probable yields, production, price, and value.

LIVESTOCK AND POULTRY INVENTORY HIGHS

(January 1)

Cattle, calves	107.2 Mil. Hd. (1965)
Hogs, pigs	83.7 Mil. Hd. (1944)
Sheep, lambs	56.2 Mil. Hd. (1942)
Horses	21.4 Mil. Hd. (1915)
Mules	5.9 Mil. Hd. (1925)
Chickens	582.2 Mil. Hd. (1944)
Turkeys	8.6 Mil. Hd. (1940)

For livestock, the inventory report at the beginning of the year provides a basic framework for monthly and

quarterly livestock and livestock product reports. The seasonal aspects are reflected in reports of cattle on feed, pig crop, eggs, milk, and meat production. Breeding intentions, hatchings, placements, calf and lamb crop reports provide information for future market supply forecasts.

DAIRY RECORDS

Number of cows	25,597,000 (1944)
Milk per cow	8,080 Lb. (1965)
Milk output	127 Bil. Lb. (1964)

The state of the farm economy is reflected in such series as numbers of farms, employment and wage rates, prices received and paid by farmers, and inventories of agricultural products.

Forty-three field offices of the Statistical Reporting Service issue similar reports, giving State and local information, as well as a brief national summary based on the Crop Reporting Board release. In addition to regular reports, special reports and bulletins are issued when needed. At times, because of sudden changes in conditions, special midmonth production forecasts have been issued. Special freeze damage reports on vegetables and citrus in Florida have been issued frequently in recent years.

Here are some of the most comprehensive and widely used reports issued by the Crop Reporting Board:

- (1) Crop Production, issued about the 10th of each month;
- (2) Cotton Production issued about the 8th of each month, July to December;
- (3) Agricultural Prices, issued near the end of each month;
- (4) Fresh Market Vegetable Production, issued about the 8th of each month;
- (5) Cold Storage report, issued about the 15th of each month;
- (6) Hatchery production, issued about the 15th of each month;
- (7) Milk production, issued about the 11th of the month;

(8) Quarterly Pig Crop report, issued about the 22d of March, June, September, and December;

(9) Quarterly Cattle on Feed, issued about the 15th of January, April, July, and October;

(10) Quarterly Grain Stocks, issued about the 25th of January, April, July, and October;

(11) January 1 livestock inventories, issued about February 15th;

(12) Farm Labor, issued about the 10th of each month;

(13) Monthly Cattle on Feed, five States, issued about the 12th of each month;

(14) Fluid Milk and Cream Report, issued about the 17th of each month; and

(15) Production of Butter and Cheese, issued near the end of each month.

These reports are available to all. Summaries of most reports are carried on radio, TV, in newspapers, and in various industry magazines. The reports are used by the farmers, businessmen, consumers and others who must make many individual decisions based on the best facts available. The same reports are used by the legislative, judicial, and executive branches of the Federal and State Governments in many different ways.

Some leading users of crop and livestock reports are: Individual farmers, farm organizations, farmer cooperatives, processors, dealers and handlers of agricultural products, operators of warehouses and other storage facilities, railroads and other transport services, industrial organizations, and manufacturers, banks, insurance and credit agencies, editors and writers for farm and trade papers, newspapers, radio and TV, members of Congress, various governmental departments, State agricultural colleges and extension services, and many others.

If you are not already using these reports and wish to receive them, write to your State Agricultural Statistician for State and local reports, or to the Crop Reporting Board or the Division of Information, OMS, Washington, D.C., 20250, for national reports.

R. K. Smith
Agricultural Estimates Division

AGRICULTURAL OUTLOOK DEPENDS ON BASIC S.R.S. DATA

There could be no agricultural outlook program in USDA, or any other organization, without the basic statistical data supplied by the *Statistical Reporting Service*. A solid statistical base is the first requirement for appraisals of the agricultural outlook. Statistical measurement and economic analyses provide the basis not only for agricultural outlook, but for day-to-day business decisions, appraisals of long-run developments in agriculture, and for policy analysis and development. Such economic intelligence aids industries processing farm products and those supplying fertilizer, machinery, and other inputs; and they help legislators and others concerned with the development and administration of farm programs.

In preparing an economic outlook, the analyst develops a framework relating prospective changes in domestic and foreign demand to supplies and related factors influencing price changes for farm products. The meat on the bones of this analytical skeleton consists of SRS data on production, prospective output, stocks, utilization, and prices. These data are supplemented by information on foreign trade and the factors influencing it; by price support and related programs affecting the commodity; and by changes in domestic markets, including population growth, consumer incomes, and related factors.

SRS Data and the Farm Outlook

The basic statistical data supplied by farmers to SRS gave advance notice of current supply increases from 1965 for beef, broilers, and turkeys; they also point to larger supplies later in 1966 for hogs, poultry and eggs.

An appraisal of the current agricultural situation and outlook will help to illustrate the importance and need for SRS statistical data. First a brief review to set the backdrop: Livestock product prices received by farmers in January-March of this year averaged a fourth above a year earlier. Meat animal prices averaged a third higher;

poultry prices a tenth higher. The sharp price advance during 1965 was due largely to a cyclical cutback in hog production which happened to coincide with a rapid expansion in consumer demand for meats. These price advances reflected a demand-supply situation which occurs infrequently in agriculture. It was not due to something the government did or did not do.

Producers Report Production Gains

SRS production reports show that farmers are responding to higher prices and the relatively favorable outlook for livestock products. *Broiler chick hatchings* so far this year are running about a tenth above a year earlier; the *turkey hatch*, though seasonably small, was up even more. The *hatch of egg-type chicks* was 13 percent larger, pointing to a rising trend in egg production later this year. The buildup in broiler hatchery supply flocks, probable demand expansion, and recent price trends point to further increases in poultry production in coming months.

The SRS *spring pig crop report* estimated the December-February crop 7 percent above a year earlier. Sow farrowings by April and May were 12 percent larger than in these months in 1965. These increases, together with *breeding intentions* for June-November, and recent product-feed price relationships, alert the analyst to the increase expected in hog production later this year and in 1967. Slaughter rates by late 1966 and into 1967 will exceed year-earlier rates, probably by more than a tenth.

Beef producers cannot quickly build up their productive capacity; but changes in prices, costs, and producer anticipations provide a basis for estimating short-run variations in feeding rates and market supplies of beef. In April, *cattle on feed* were reported 13 percent above April 1965 and feeders planned to market 12 percent more fed cattle in April-June than a year earlier. More recent SRS releases report a heavy movement of feeders into feed-

lots. The June cattle on feed release for selected States reported 16 percent more on feed. Price-cost relationships also are resulting in increased feeding and heavier weights.

The bulge in fed cattle supplies this spring and prospects for the summer are not expected to result in sharply lower prices. Demand for beef is very strong, but rising hog production and continued large poultry supplies will affect beef prices later this year.

Even with expanding domestic and foreign markets, the prospective increases in production of hogs, poultry, and eggs likely will lead to lower average prices. By the closing months of the year, *average meat animal prices* may be down more than a tenth from the relatively high first-quarter level; *poultry and egg prices* may average about a fifth lower. Some recovery in *milk production* is expected in response to higher prices, but production for the year may total a little below 1965.

Fresh vegetable supplies, increased going into late spring, from reduced winter stocks, with prices dropping sharply below the spring of 1965. Acreage planted and scheduled for fresh market indicates seasonally larger supplies into summer. Planted acreage of principal *vegetables for processing* is up almost a tenth from 1965. Remaining supplies of major processed vegetables are smaller than a year ago; prices continue relatively high.

Crop production for June reported the 1966 wheat crop 7 percent smaller than in 1965 due to unfavorable weather for both the winter and spring crops. The June release also reported 3 percent more peaches and an increase of 43 percent for pears from the short 1965 crop. The late spring potato crop was up 10 percent and the early summer crop was estimated 16 percent larger.

Planting intentions by growers in March pointed to another large outturn of major crops. Increased acreage was planned for soybeans, corn, barley, Durum wheat, potatoes, and many vegetable crops. Cotton growers reported intentions to plant 23 percent less acreage. This should help to work down record carryover stocks of cotton

during the 1966-67 marketing year. Increased domestic use and substantially larger exports are leading to reductions in carryover stocks of wheat, feed grains, and soybeans.

Farm Income Rising In 1966

Production increases underway and in prospect point to lower farm product prices as larger supplies move to market later in the year. The index of prices received by farmers apparently has passed its peak for the year. Nevertheless, livestock product prices for 1966 are expected to average perhaps 7 to 10 percent above 1965. Crop prices are expected to decline seasonally in coming months and may average a little below 1965 for the whole year. Lower average prices are likely for potatoes, some fruits, and a number of commercial vegetables. Market prices for cotton will reflect the announced 21-cent loan rate. But Government payments to farmers to maintain crop income will more than offset the effect of lower prices.

On balance, farmers will experience in 1966, along with others in the economy, one of their most prosperous years. Realized net farm income probably will be around a billion dollars above the \$14.1 billion estimated for 1965. Average net income per farm as well as per capita personal income of farm people will rise further, possibly around a tenth above 1965.

Modern business and Government cannot efficiently anticipate market potentials and needed production adjustments without basic statistical information on where we are and where we have been. To fill this need, the SRS is set up to provide data on farm production and marketings, utilization, stocks, farm product prices, prices paid by farmers and a number of series relating to farmers' plans for the future. The collection and publication of such data, though possibly one of the less glamorous activities of USDA, is the cornerstone of most policy appraisal and agricultural outlook work of USDA.

Rex F. Daly
Chairman, Outlook and Situation Board

The Making of Crop Reports

■ About 25 years ago, on one of my frequent visits to my home community in western North Carolina, I was having my usual visit with Dwight Jones. He was a neighbor and a high school classmate of mine. In fact, we almost started off to college together. At the last minute, however, he decided that farming was more to his liking than books. But he has always been keenly interested in my progress, as I have been in his, so we have continued a warm friendship over the years.

On this particular day, Dwight asked me to get specific about my job with USDA. Proudly, of course, I replied that I worked with the part of the Department that estimates crop and livestock production. We forecast production in season, we estimate the numbers of livestock on farms, calves born, broilers produced, farm prices, and many other things that help farmers know the situation in their locality and in other areas.

Dwight interrupted about here and said, "I don't know why they pay you to do that—I can get all those figures from any farm magazine or even our local newspaper."

To give this leading branch of American Industry the encouragement which it merits, I respectfully recommend the establishment of an agricultural bureau, to be connected with the Department of the Interior. To elevate the social condition of the agriculturist, to increase his prosperity, and to extend his means of usefulness to his country, by multiplying his sources of information, should be the study of every statesman and a primary object with every legislator.

Zachary Taylor
Annual Message to Congress, 1849

For a moment, I was stumped. "But you don't quite understand," I said. "Haven't you ever realized that the newspapers or magazines don't just dream up those figures? They are the result of regular surveys about crop

conditions, acreages planted, numbers of cattle and such."

"Surveys?" Dwight exclaimed. "Don't tell me you are responsible for all those forms and stuff that I've been receiving in the mail."

"I'm not exactly responsible for them," I replied, "but I do work for the outfit that makes the surveys."

"Well then," Dwight said, "please explain just what happens to those blanks. If I knew more about it I might help you out and answer some of them. I never realized you were associated with that business."

Dwight was beginning to warm up to our proposition. So, I opened up and told him the story of a crop report. He didn't interrupt one single time.

"First," I said, "let me say that these surveys are intended to help you out, as a farmer. They are designed to inform you about the economics of your business. You know as well as I that the supply of a commodity has a great deal to do with the price you receive. So the more good information you have at hand, the better plans and decisions you can make about what to produce and when you should sell it. But to get on with the story of a crop or livestock report . . ."

"To begin with," I continued, "all the surveys are planned well in advance. Those that are to go into a national report are planned by the Crop Reporting Board in Washington."

He was listening, so I didn't dare stop. "The questions to be asked on the survey forms are decided on and adapted to the practices and conditions in the individual States. Lists of voluntary crop reporters are maintained in the State offices. The reporters are farmers and others who are public spirited and anxious to help the entire agricultural community as well as themselves. Their names are on a machine-kept list and they are mailed the inquiries regularly. They report on conditions in their locality and quite often for their own farms. Everything reported is kept confidential, except as

they are included in averages for their county or State."

I was beginning to warm to my subject, as I said: "These patriotic reporters answer the inquiries by a specified date and mail them back to their State statistician. His small staff reviews the answers for reasonableness and tabulates the results. Based on the averages obtained from all reporters, the statisticians convert the averages or ratios into statewide estimates."

DAIRY PRODUCTS

Annual Production Records

Butter	1,872 Mil. Lb. (1941)
American cheese	1,157 Mil. Lb. (1964)
Total cheese	1,726 Mil. Lb. (1964)
Evaporated milk	3,776 Mil. Lb. (1945)
Ice cream	736 Mil. Gal. (1964)

"You see," I went on, "the reporters are basically the same people year after year. This helps, because any change shown is usually significant and quite accurately reflects changes that have really occurred. This applies whether it is a wheat or tobacco yield or the number of beef cattle on farms. To help evaluate the data, the statistician has traveled throughout the State and observed growing conditions and talked to many well-informed people, including marketing agencies, farm suppliers, and others. He also has made a study of reports on rainfall, temperatures, frosts, and other weather factors that might affect the item being estimated."

"The next step," I explained, "is for the State statistician to make his estimate, put it on certain forms and write down why he is recommending a certain figure for his State. This all goes to the Crop Reporting Board in USDA headquarters in Washington. There, the commodity specialists review the various indications and explanations to see that the figures are reasonable and appropriate for the State."

In locked quarters (secret, if you will) the data for all States are accumulated into the national report. At the predetermined minute, the chairman of the Crop Reporting Board releases the U.S. total and the individual State estimates to the public. This way, everybody has the benefit of the national and State data at the same time, making it fair to buyers and sellers alike. Then, and only then, does the data become available to news outlets.

The various State statisticians also release the information—often at the same time it is released in Washington. They prepare stories for their States, giving the State data with considerable detail and explanations, as well as the U.S. totals. These stories go to local news outlets, the crop reporters who supplied the data, and anyone else who asks to be put on the mailing list."

With this filibuster, Dwight came to life and said something like, "That's enough of that. What do I have to do to be one of these crop reporters?"

It was exactly what I wanted him to ask. I said, "My friend, you apparently are already on the list. Just take the time to fill out the blanks and mail them in. Then study the detailed reports you get back and see how you make out."

Dwight did just that. He has a perfect reporting record for 25 years.

Just a few years ago, though, it seemed appropriate to update my story to him. I told him that although the mailed surveys have worked out very well, it has been necessary to start some newer methods like probability sampling on acreages and livestock numbers. Also objective counts are made on some crops. These supplement the mailed inquiry data and help to increase the confidence that can be put in the data.

Everytime I go back home, I see Dwight Jones and hear of his having bought another piece of land. He always asks about the national cattle cycle and corn prospects. I can see his "tongue in his cheek" because it is very evident that he knows more about these things than I do.

Russell P. Handy
Field Operations Division

"Bert" Newells' LETTER



I remember an old mule that used to pull the clay car from the claybank to the brick mill. Every weekday, he went back and forth over about a half mile of track. On Sunday when he was turned out to graze, it wouldn't be long before you would see him just walking up and down that track.

We used to joke about how that dumb old critter didn't know when he was well off, but now I have a sort of fellow-feeling for him. You see I took off to pasture about 4 years ago, but to save my neck I can't seem to forget old ties and old associations. So the other day when Harry Trelogan and Glenn Simpson asked me if I would like to write a letter to old friends to sort of help to celebrate "A Century of Crop and Livestock Estimates," well, how could I say no.

There is something about this service that sort of gets into your blood. Oh, there are a lot of figures and reports and all that kind of thing that some times get aggravating—especially on a nice day when the outdoors and fields and woods would look much better than filling out a questionnaire or poring over tabulation sheets or regres-

sion charts. But then you get out, and you remember how those figures and comments and letters from you folks can all come alive. They mean people, and you just want to get back to your friends. No fooling, that is really true.

There is something unique about this organization and I honestly believe it comes from the attitude, or the kind of raisin', as we used to say, that all of us, reporters and statisticians alike, have had. We came up through the period when the "work ethic" was the honorable estate. That is, when you want something you pull off your coat and work for it. It's the tough way, but when you get it, there is an inner feeling of pride that makes it all worthwhile. It reminds me of the definition a GI once gave for morale. He said, "Morale is what makes you keep goin when yo foots says you kaint."

This is the spirit that started this Crop and Livestock Reporting Service and made it the envy of most other countries. Over a hundred years ago when farmers wanted crop reports in the worst way, one farmer wrote to all the agricultural societies asking, "Are we just going to sit on our hands and wait for some one to give it to us?" He wasn't going to just sit down and squall like a spoiled kid so he started right in to get the job done himself. It was much too big a job for him, but it is that attitude that is still the backbone of the finest agricultural reporting service in the world.

Yep, that's what got me back walking down the old track. Of course, I find the track along the old road has been doubled and quadrupled. The mule is a great big computer and other new-fangled things I don't understand. If the farmer who wrote that letter some 110 years ago could see the Service now, he probably would only gape and say "my, how he has growed." But the real backbone of the Service is still the voluntary reporters working hand-in-hand with the trained and dedicated statisticians with lots of agricultural savvy in every State and in Washington.

There is still lots to be done. I wonder what it will be like in 2066. You and I won't be walking the track then, but someone surely will be.

WHAT IN THE WORLD . . .

Will Bicentennial-celebrators In 2066 Look Back On

Unless all signs and portents fall, the next century will find spectacular advances in the collection, processing, analysis, distribution, and use of agricultural statistics.

The world of 2066 will have food problems of such magnitude that they cannot be solved without the aid of statistics that are timely, accurate, and comprehensive beyond parallel. A leader in 2066 will have one of the same decision-making needs as that of William the Conqueror in 1066—more and better information.

According to demographers, the population of the United States during the ensuing century will swell to between 600 million and a billion, and the population of the world from its present 3 billion to as much as 26 billion. Just to maintain life for these great-grandchildren of people not yet born will require skillful management at all levels and in all aspects of production, processing, and distribution. The United States will not feed the world, but its "golden horn of plenty" will play a vital role as a significant and integrated portion of the global supply of food, feed, and fiber.

The system of providing statistics concerning our agricultural economy will, of necessity, be much more sophisticated. Although it may excel those of most countries, it will be a component part of a worldwide fact finding and disseminating organization.

The development and use of electronic equipment, automation, and scientific methodology is presently beyond the Wrights at Kitty Hawk, but probably not beyond the stage of airplanes during World War I. Since progress in this field appears to occur in geometric progression, it seems reasonable to believe that devices and gadgetry of all kinds will have been developed by 2066 which will make present methods appear crude indeed.

During the forthcoming century, it seems quite certain that every inch of

the earth's surface will be photographed in three-dimensional color, and classified minutely by infrared devices, heat reflecting gauges, radar imagers, and other sensory instruments.

Land use will be recorded for analysis of crop prospects, livestock numbers, farm employment, plant and animal diseases, pest infestations, condition of buildings and houses, and related items of economic interest. Community, county, State, and national analyses of these surveys will be prepared almost instantly by equipment now in its infancy or yet to be conceived.

Today's data transmission systems can send 300 characters per second on a telephone wire and 62,500 characters per second by microwave. In a hundred years, these speeds will seem slow when such phenomena as the laser beam, which transmits at the speed of light, have been harnessed.

A national statistical center will receive information transmitted simultaneously by observers and sensory devices located in all parts of the country. A World Statistical Center will coordinate and combine similar data for all nations so that a continuous accounting of the current and prospective supply, demand, and distribution situation can be maintained by countries and selected areas.

The "known world" will have expanded to include planets now loosely identified as "heavenly bodies." Statistical information concerning the inhabitants, climate, soils, flora and fauna of these distant places will be of interest, and perhaps there may be concern about the manna crop on Mars.

In this country, the critical need for information will bring about some startling innovations in reporting. When necessary to obtain information by personal visit, the interviewer can record replies on a small hand-carried device that transmits them, by Telestar, laser beam or some such mechanism, to a central computing station. The

interviewer may also use a voice recorder which can transmit sound instantly to a central location.

Vast amounts of historical information, carefully catalogued, indexed, and standardized, will be stored indefinitely in data banks where it can be instantly and precisely recalled for comparison with current data and for management decisions and research use. Storage and retrieval of billions of bits of information even today are a relatively simple matter.

Photographic images on rotating disks, now in the experimental stage, are expected to store trillions of characters for prompt retrieval and use. Computers that can now read a digit in a nano-second—a billionth of a second—will be museum pieces in another hundred years. (Incidentally, not all experiments have turned out well. For example, a business-machines researcher successfully stored data in a barrel of distilled water but met defeat when a truck rumbling by jostled it and scrambled the data.)

Optical scanners can read typewritten numbers and the printed page, and convert the information into computer language for analysis, but they "choke-up" on script. However, the scanning and transmission of handwriting will inevitably be made possible by exceedingly fast computers that can manipulate and decipher the innumerable variations in the written word. The translation of a printed page from one language into another is happening now, and a similar manipulation of handwritten material will no doubt be possible within a generation.

The conversion from voice to printed page, translation into a desired language, and the reversal back to voice again will be a routine practice in 2066 and probably much sooner.

By 2066, commands will be issued to a battalion of computers that will respond with an alacrity and precision never dreamed of by a marching drill unit. All these marvels will be put to use by statisticians when their needs, funds, and state of the art blend.

The fathomless oceans will become a bountiful source of food by 2066. Sonar devices, currently used to locate

schools of fish, will be improved and dispensed purposely over the surface of the seven seas to relay information to the statistical center concerning the location, number, size, and kind of fish at a given time. Comparable sensors will be standard equipment on harvesting and processing machines throughout the universe.

It seems probable that the weather will be under quite rigid control by 2066. In Spain, the rain will not fall "mainly on the plain" but wherever the weathermaker decides it is most needed. However, the synergistic effects of precipitation, fertilizer, pesticides, fungicides, soil types, topography, and cultural practices will continue to result in a varied production pattern. Therefore, periodic appraisals of prospects will be essential so that food supplies can be distributed to the hungry mouths of the world's population.

Vastly improved transportation by land, sea, and air, and enhanced economic ability of the masses to satisfy their wants and appetites will make such items available on any corner. Huge freight vehicles that roll on cushions of air will distribute agricultural produce far and wide. Vacuum tubes of noncorrosive material, submerged to quiet depths of the sea, will transfer products from continent to continent in less time than our pipelines move oil from Texas to New Jersey.

The development of edible plants and marine animals that can be produced in the sea will make ocean-farming a thriving enterprise. Through the power of atomic energy, the capacity to convert salt water into fresh water suitable for irrigation will make deserts truly blossom like the rose—opening up vast new areas for agricultural use. Satellites equipped with seeing-eye and sonic devices will record these developments, aided when necessary by observers in manned orbiting stations.

The job of the agricultural statistician will have changed over the century, with emphasis on long-range, comprehensive, detailed, and precise planning. Planning feasibility studies, creating forecasting and estimating models, programming operations, and evaluating and interpreting survey results that must be highly functional will

occupy the talents of the agricultural statistician in 2066.

Will the breadth and depth of knowledge readily available and the pervasiveness of communications eliminate the need for statisticians? Even today an executive can key into a central computer and get an immediate answer back on a TV screen, a printed page, or an audio response unit in a male or female voice.

But man, who is something of a marvel himself, will still have an important role in 2066. The knowledge the average person carries in his head would require an electronic storage facility the size of the Empire State Building. And man is by necessity resourceful. To illustrate: In wintry Wisconsin there is a widespread need by farmers, construction engineers, and highway officials for information concerning the depth that the ground is frozen. But where can you get such facts for each community? From grave diggers, of course. So during the long cold season, grave diggers throughout the State, delighted to be of service to the living as well as the dead, carefully measure and report the depth of the frost line. By 2066, the advent of more scientific techniques will have obviated such ghoulish surveys.

Years ago when the largest telescope then devised was being constructed, speculation was rampant as to what would be seen by the scientists when they looked through their new and powerful telescope. Some said they would see Mars better than it had ever been seen before, others were enthralled by prospects of a closeup view of Venus and the Milky Way. Finally a wise man said, "I will tell you exactly what they will see when they look through their new telescope. They will see the need for a bigger telescope."

And so it will be in 2066. After the agricultural statistician has studied the results wrought by his galaxy of scientific data-collection facilities, analytical paraphernalia, and communications media, he will conclude then, as he does now, that what he needs is a "bigger telescope."

Emerson M. Brooks
Field Operations Division

July 1966

In This Issue

	Page
Adminis.'s Letter.....	2
Statistical Benefits.....	3
Centennial Pictures.....	5
History.....	8
Charts.....	10
Fed.-State Relations.....	16
Coop. in Action.....	18
Chronology.....	20
Crop Reports.....	22
Data for Outlook.....	24
Tools for Reporting.....	24
Making Reports.....	26
"Bert" Newell's Letter.....	28
Next Century.....	29

All Articles May Be

Reprinted Without Permission

Editor: Marilyn H. Grantham

SERIALS SECTION
UNIV MICROFILMS
300 N ZEEB
ANN ARBOR MICH 48103

UNITED STATES
DEPARTMENT OF AGRICULTURE

STATISTICAL REPORTING SERVICE
WASHINGTON, D.C. 20250

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF AGRICULTURE

